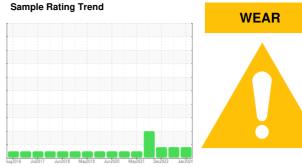


OIL ANALYSIS REPORT

East Molding 554 (S/N 2047428)

Hydraulic System

AW HYDRAULIC OIL ISO 46 (430 GAL)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

The copper level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

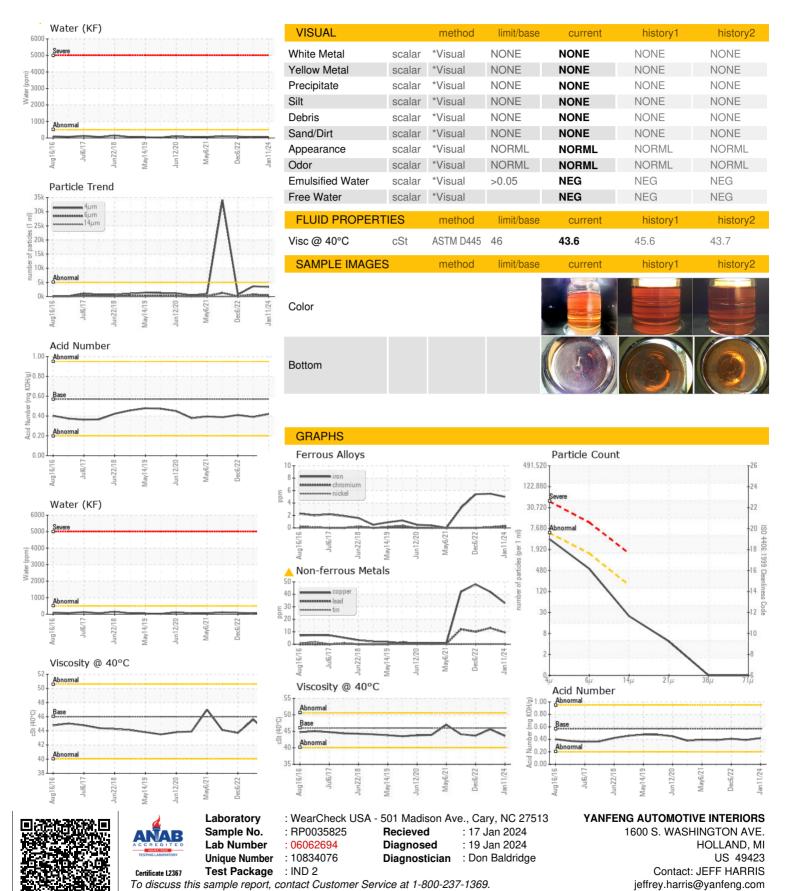
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0			lug2016 Ju	(2017 Jun2018 May201	19 Jun2020 May2021 Doc20	022 Jan2024	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		RP0035825	RP0034734	RP0023003
Oil Age hrs Client Info N/A N/A N/A N/A Sample Status MARGINAL MARGINAL MARGINAL MARGINAL MARGINAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 5 6 5 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 2 0 0 Copper ppm ASTM D5185m >20 9 13 10 Copper ppm ASTM D5185m >20 4 33 4 42 48 Tin ppm ASTM D5185m >20 4 1 <1 <1 Antimony ppm ASTM D	Sample Date		Client Info		11 Jan 2024	28 Jun 2023	06 Dec 2022
Oil Changed Sample Status	Machine Age	hrs	Client Info		0	0	0
Sample Status method limit/base current history1 MARGINAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 5 6 5 Chromium ppm ASTM D5185m >20 <1	Oil Age	hrs	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 5 6 5 Chromium ppm ASTM D5185m >20 <1	Oil Changed		Client Info		N/A	N/A	N/A
Iron	Sample Status				MARGINAL	MARGINAL	MARGINAL
Chromium ppm ASTM D5185m >20 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >20 0 0 0 0 0 Titanium ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m 20 2 0 0 Lead ppm ASTM D5185m >20 9 13 10 Copper ppm ASTM D5185m >20 4 33 42 ▲ 48 Tin ppm ASTM D5185m >20 4 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	Iron	ppm	ASTM D5185m	>20	5	6	5
Titanium ppm ASTM D5185m 0	Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Silver	Nickel	ppm	ASTM D5185m	>20	0	0	0
Aluminum ppm ASTM D5185m ≥20 2 0 0 Lead ppm ASTM D5185m >20 9 13 10 Copper ppm ASTM D5185m >20 433 42 48 Tin ppm ASTM D5185m >20 <1	Titanium	ppm	ASTM D5185m		0	<1	<1
Lead ppm ASTM D5185m >20 9 13 10 Copper ppm ASTM D5185m >20 ▲ 33 ▲ 42 ▲ 48 Tin ppm ASTM D5185m >20 <1	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >20 ▲ 33 ▲ 42 ▲ 48 Tin ppm ASTM D5185m >20 <1	Aluminum	ppm	ASTM D5185m	>20	2	0	0
Tin	Lead	ppm	ASTM D5185m	>20	9	13	10
Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 <1	Copper	ppm	ASTM D5185m	>20	△ 33	▲ 42	4 8
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 <1 Barium ppm ASTM D5185m 5 3 0 0 Molybdenum ppm ASTM D5185m 5 <1 1 <1 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 25 4 6 7 Calcium ppm ASTM D5185m 20 44 50 53 Phosphorus ppm ASTM D5185m 300 365 365 346 Zinc ppm ASTM D5185m 300 365 365 341 CONTAMINANTS method limit/base current history1 history2 </td <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>20</td> <th><1</th> <td><1</td> <td><1</td>	Tin	ppm	ASTM D5185m	>20	<1	<1	<1
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ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 5 0 0 <1 Barium ppm ASTM D5185m 5 3 0 0 Molybdenum ppm ASTM D5185m 5 <1 1 <1 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 20 44 50 53 Phosphorus ppm ASTM D5185m 200 44 50 53 Phosphorus ppm ASTM D5185m 200 365 365 346 Zinc ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1 1 Sodium ppm ASTM D5185m >20 2 0 <1 1 Sodium pp	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 5 3 0 0 Molybdenum ppm ASTM D5185m 5 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 5 <1 1 <1 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 25 4 6 7 Calcium ppm ASTM D5185m 200 44 50 53 Phosphorus ppm ASTM D5185m 300 365 365 346 Zinc ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1 1 Sodium ppm ASTM D5185m >15 0 <1 1 Sodium ppm ASTM D5185m >20 2	Boron	ppm	ASTM D5185m	5	0	0	<1
Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 25 4 6 7 Calcium ppm ASTM D5185m 200 44 50 53 Phosphorus ppm ASTM D5185m 300 365 365 346 Zinc ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Barium	ppm	ASTM D5185m	5	3	0	0
Magnesium ppm ASTM D5185m 25 4 6 7 Calcium ppm ASTM D5185m 200 44 50 53 Phosphorus ppm ASTM D5185m 300 365 365 346 Zinc ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Molybdenum	ppm	ASTM D5185m	5	<1	1	<1
Calcium ppm ASTM D5185m 200 44 50 53 Phosphorus ppm ASTM D5185m 300 365 365 346 Zinc ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Manganese	ppm	ASTM D5185m		0	<1	<1
Phosphorus ppm ASTM D5185m 300 365 365 346 Zinc ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Magnesium	ppm	ASTM D5185m	25	4	6	7
Zinc ppm ASTM D5185m 370 347 385 381 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Calcium	ppm	ASTM D5185m	200	44	50	53
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 0 <1	Phosphorus	ppm	ASTM D5185m	300	365	365	346
Silicon ppm ASTM D5185m >15 0 <1 1 Sodium ppm ASTM D5185m 1 2 0 Potassium ppm ASTM D5185m >20 2 0 1 Water % ASTM D6304 >0.05 0.004 0.005 0.008 ppm Water ppm ASTM D6304 >500 41 57.1 82.7 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3345 3651 687 Particles >6μm ASTM D7647 >1300 474 689 82 Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 <t< td=""><td>Zinc</td><td>ppm</td><td>ASTM D5185m</td><td>370</td><th>347</th><td>385</td><td>381</td></t<>	Zinc	ppm	ASTM D5185m	370	347	385	381
Sodium ppm ASTM D5185m 1 2 0 Potassium ppm ASTM D5185m >20 2 0 1 Water % ASTM D6304 >0.05 0.004 0.005 0.008 ppm Water ppm ASTM D6304 >500 41 57.1 82.7 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3345 3651 687 Particles >6μm ASTM D7647 >1300 474 689 82 Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >38μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1	CONTAMINANTS	3	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 1 2 0 Potassium ppm ASTM D5185m >20 2 0 1 Water % ASTM D6304 >0.05 0.004 0.005 0.008 ppm Water ppm ASTM D6304 >500 41 57.1 82.7 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3345 3651 687 Particles >6μm ASTM D7647 >1300 474 689 82 Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >38μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1	Silicon	ppm	ASTM D5185m	>15	0	<1	1
Potassium ppm ASTM D5185m >20 2 0 1 Water % ASTM D6304 >0.05 0.004 0.005 0.008 ppm Water ppm ASTM D6304 >500 41 57.1 82.7 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3345 3651 687 Particles >6μm ASTM D7647 >1300 474 689 82 Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >38μm ASTM D7647 >10 0 1 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1	Sodium		ASTM D5185m		1	2	0
Water % ASTM D6304 >0.05 0.004 0.005 0.008 ppm Water ppm ASTM D6304 >500 41 57.1 82.7 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3345 3651 687 Particles >6μm ASTM D7647 >1300 474 689 82 Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >38μm ASTM D7647 >10 0 1 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2	Potassium		ASTM D5185m	>20	2		1
ppm Water ppm ASTM D6304 >500 41 57.1 82.7 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3345 3651 687 Particles >6μm ASTM D7647 >1300 474 689 82 Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >38μm ASTM D7647 >10 0 1 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2				>0.05	0.004	0.005	0.008
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Particles >6μm ASTM D7647 >1300 474 689 82 Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >38μm ASTM D7647 >10 0 1 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
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Particles >14μm ASTM D7647 >160 21 58 7 Particles >21μm ASTM D7647 >40 4 14 3 Particles >38μm ASTM D7647 >10 0 1 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	474	689	82
Particles >38μm ASTM D7647 >10 0 1 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2	•					58	7
Particles >38μm ASTM D7647 >10 0 1 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>40	4	14	3
Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2	•					1	
Oil Cleanliness ISO 4406 (c) >19/17/14 19/16/12 19/17/13 17/14/10 FLUID DEGRADATION method limit/base current history1 history2				>3	0	0	0
•					19/16/12	19/17/13	17/14/10
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g			0.42		



OIL ANALYSIS REPORT



* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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